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EXAMINER	
SWOPE, SHERIDAN	

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1652	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/523,588	FRANCIS-LANG ET AL.	
	Examiner	Art Unit	
	SHERIDAN SWOPE	1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *September 9, 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-5,7-11,13,15,16,20,22-25 and 27-29* is/are pending in the application.

4a) Of the above claim(s) *4,5,7-11,13,15,20 and 22-25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,16 and 27-29* is/are rejected.

7)☒ Claim(s) *1,3,16 and 27-29* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1106*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicants' election with traverse of SEQ ID NO: 11, in the response of September 9, 2010, is acknowledged. The elected invention is directed to a method for identifying a p21 pathway modulator using a cellular proliferation assay system comprising the casein kinase set forth by SEQ ID NO: 11.

Applicants' traversal is based on the following arguments. Applicants respectfully request that the Examiner reconsider the species restriction requirement and examine SEQ ID NOs: 10-12. MPEP § 808.01(a) states that a requirement for a species restriction is only proper if both the following criteria are met: (1) the purported inventions must be patentably distinct or independent, and (2) there must be a serious burden on the Examiner if the restriction were not required. In this case, the Examiner merely asserts that that there would be a serious burden if restriction were not required for one of three generic reasons (the species require a different field of search, and/or the prior art applicable to one species would not likely be applicable to another species, and/or the species are likely to raise different non-prior art issues), but fails to specify which reason(s) would cause the undue burden and how or why such burden would be imposed. Applicants submit that such an unsupported assertion is not the appropriate explanation required by the rules. For example, the

These arguments are not found to be persuasive for the following reasons. As explained in the prior action, there is an examination and search burden for these patentably distinct species due to their mutually exclusive characteristics. The species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search queries [SEQ ID NO:]); and/or the prior art applicable to one species would not likely be

applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

As acknowledged by Applicants in their response each of SEQ ID NO: 10-12 is a distinct sequence (pg 3, ¶1). As would be understood by the skilled artisan, for SEQ ID NO: 10-12, each nucleic acid molecule requires an independent search of sequence databases. Said databases include GenEMBL, N_Geneseq, Issued_Patents_NA, EST, Published_Applications_NA_Main, Published_Applications_NA_New, Pending_Applications_NA_Main, Pending_Applications_NA_New, A_Geneseq, Issued_Patents_AA, PIR, UniProt_05.80, Published_Applications_AA_Main, Published_Applications_AA_New, Pending_Applications_AA_Main, and Pending_Applications_AA_New, which would have to be searched with each of SEQ ID NO: 10-12. In addition, each of SEQ ID NO: 10-12 requires independent searching of the Patent and non-patent literature as well as independent consideration under 35 USC 101 and 112, first paragraph. The restriction requirement is still deemed proper and is therefore made FINAL.

It is acknowledged that, with the Request for Continuing Examination of July 27, 2010, Claims 26 and 30 were cancelled and Claims 1, 3, and 16 were amended. No additional claim amendments were filed with the response of September 9, 2010. Claims 1, 3-5, 7-11, 13, 15, 16, 20, 22-25, and 27-29 are pending. Claims 4, 5, 7-11, 13, 15, 20, and 22-25 were previously withdrawn from further consideration pursuant to 37 CFR 1.142(b). Claims 1, 3, 16, and 27-29 are hereby reconsidered.

Priority

The priority date granted for Claims 1, 3, 16, and 27-29, as amended, is August 6, 2003, the filing date of PCT/US03/24551. It is noted that US 60/401,739 fails to disclose the full-length nucleic acid molecule set forth by SEQ ID NO: 11 herein.

Claims-Objections

Claims 1, 3, 16, and 27-29 are provisionally objected to for reciting non-elected subject matter.

Claim 1 is objected to for "comprising casein kinase I gamma", which should be corrected to "comprising a casein kinase I gamma". Claims 3, 16, and 27-29, as dependent from Claim 1, are objected to for the same reason.

Claim 1 is objected to for "or polypeptide encoded thereby", which should be corrected to "or a/the* polypeptide encoded thereby". Claims 3, 16, and 27-29, as dependent from Claim 1, are objected to for the same reason.

*See the rejection under 35 USC 112, second paragraph.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Utility

Rejection of Claims 1, 3, 16, and 27-29 under 35 U.S.C. 101 because the claimed invention lacks patentable utility, as explained in the prior actions, is maintained. In support of their request that said rejection be withdrawn, Applicants provide the following arguments.

(A) As explained in the specification, p21 is a cell cycle control protein that inhibits cyclin-kinase activity and mediates p53 suppression of tumor cell growth (pg 1). Applicants have discovered that casein kinase I (CSNK1G) modifies the p21 pathway (pg 2-3). CSNK1G proteins and nucleic acids can be used to identify p21 modulating agents. The identification of such agents can be used in the study and treatment of disorders associated with defective or impaired p21 function, such as cancer (pg 2-4). Thus, the invention provides screening assays that have specific utility for identifying p21 pathway modulating agents, which agents are candidates for the further development of diagnostic and therapeutic modalities for the diagnosis and treatment of disorders associated with defective p21.

(A) Reply: It is acknowledged that p21 was known to be a cell cycle control protein that inhibits cyclin-kinase activity and mediates some p53-dependent and p53-independent mechanisms. It is also acknowledged that the specification asserts that CSNK1G proteins and nucleic acids can be used to identify p21 modulating agents. However, as explained in the prior actions, Claim 1 is not directed to a method for identifying p21 modulating agents; said claim is directed to a method for identifying candidate p21 modulating agents. Thus, Claim 1 is directed to a method of identifying an agent that might be useful. Also see the action of October 6, 2009, pages 6-9, and Reply (C), below.

(B) A claimed invention has substantial utility if it defines a "real world" or "practical" use. According to the MPEP, "any reasonable use that an applicant has identified for the invention that can be viewed as providing a public benefit should be accepted as sufficient, at least with regard to defining a 'substantial' utility". MPEP §2107.01 I. The claimed methods have a practical use for identifying p21 pathway modulating agents, which agents are therapeutic candidates for the diagnosis and treatment of disorders associated with defective p21.

(B) Reply: As explained in the prior actions and in (A), above, Claim 1 is directed to a method of identifying an agent that might be useful.

(C) The Office asserted that the present claims fail to have a specific and substantial benefit to the public without further research to determine if the 'candidate' modulator is, in fact, a modulator of the a p21 pathway. The Office concluded that the recited steps have no immediate benefit to the public. However, contrary to the Office's assertion, the claimed invention does indeed have an immediate benefit to the public. Applicants have discovered that CSNK1G modulates the p21 pathway. Thus, among other things, the claimed screening assays employing CSNK1G polypeptides or nucleic acids have the immediate benefit of identifying those compounds that modulate p21.

The fact that the identified compounds may require additional testing to confirm p21 pathway modulation does not detract from the invention's immediate benefit of identifying specific compounds (out of potentially hundreds of compounds) that modulate p21. Furthermore, the fact that further research may be indicated does not preclude a finding of substantial utility. In this regard, the Federal Circuit has specifically determined that the term "benefit to the public" is not interpreted "to mean that products or services based on the claimed invention must be 'currently available' to the public in order to satisfy the utility requirement." MPEP §2107.01, citing Brenner v. Manson, 383 U.S. 519, 534-35 (1966).

(C) Reply: As explained in the prior actions and in (A), above, the goal of Claim 1 is to identify agents that might be p21 modulators. Moreover, the steps recited in Claim 1 fail to enable the skilled artisan to determine if any agent identified thereby is, in fact, a p21 modulator. The recited steps merely treat a cell culture system comprising SEQ ID NO: 11 with a test agent and assume that any effect of the test agent on proliferation is mediated by p21. The method fails to

differentiate between proliferation mediated by p21 and proliferation mediated by any other of the extremely large number of signal transduction molecules involved in proliferation.

(D) Finally, Applicants point out that the Patent Office itself has recognized the utility of identifying "candidate" test agents. Several patents have issued with claims similar to the instant application. See, for example, US Patent Nos. 7,507,547; 7,501,395; 7,504,227; 7,498,134; and 7,498,127.

(D) Reply: The Examiner is not allowed to comment on the validity of issued patents.

(E) The Office further argued that a method of assaying for or identifying a material that itself has no specific and/or substantial utility does not satisfy 35 USC 101. However, for the reasons provided herein, Applicants submit that the presently claimed methods are used to assay for a p21 modulator, which modulator has specific and substantial utility.

(E) Reply: See (A)-(D), above and the prior actions.

The further rejection of Claims 1, 3, 16, and 27-29 under 35 U.S.C. 112, first paragraph/enablement, for the reasons explained in the prior actions, is also maintained.

Claim Rejections - 35 USC § 112-Second Paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1, 3, 16, and 27-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention for the following reason.

Rejection of Claim 16(d)(f), because the phrase "phenotypic change" renders the claim indefinite, is maintained. In support of their request that said rejection be withdrawn, Applicants

provide the following arguments. One skilled in the art would know that the term "phenotypic change" in mammalian cells refers to changes in cell appearance (ie morphology, size, etc) and cell behavior (i.e., function), for example, changes in cell apoptosis, proliferation, progression through cell-cycle, angiogenesis, adhesion, tubulogenesis, migration, sprouting, etc, as described throughout the specification.

These arguments are not found to be persuasive for the following reasons. It is acknowledged that the skilled artisan would understand that "phenotype" or "phenotypic" means any observable characteristic. However, the specification provides only an exemplary definition of the genus of observable characteristics to be detected by the method of Claim 16. In addition, Claim 16 fails to recite any steps for said detecting of any phenotypic change. The skilled artisan would not know the metes and bounds of the recited invention.

For Claims 1 and 16, the phrase "nucleic acid comprising any of SEQ ID NOs: 1-12 or polypeptide encoded thereby" renders the claim indefinite. It is unclear whether "polypeptide encoded thereby" means (i) any polypeptide encoded by any nucleic acid comprising any of SEQ ID NO: 1-12 or (ii) specifically the polypeptide encoded by one of SEQ ID NO: 1-12. The skilled artisan would not know the metes and bounds of the recited invention. Claims 3, 16, and 27-29, as dependent from Claim 1, are indefinite for the same reason. For purposes of examination, it is assumed that the phrase "nucleic acid comprising any of SEQ ID NOs: 1-12 or polypeptide encoded thereby" means "nucleic acid comprising any of SEQ ID NOs: 1-12 or the polypeptide encoded by a nucleic acid comprising any of SEQ ID NO: 1-12".

For Claim 1(b) the term "CSNK1G" renders the claim indefinite. It is unclear whether said term refers to the CSNK1G of Claim 1(a) or any CSNK1G. The skilled artisan would not know the metes and bounds of the recited invention. Claims 3, 16, and 27-29, as dependent from

Claim 1, are indefinite for the same reason. For purposes of examination, it is assumed that the term "CSNK1G" means "the CSNK1G" and refers to the CSNK1G of Claim 1(a).

Any subsequent rejection based, on clarification of the above phrases and terms, will not be considered a new ground for rejection.

Claim Rejections - 35 USC § 112-First Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Enablement

The further rejection of Claims 1, 3, 16, and 27-29 under 35 U.S.C. 112, first paragraph/enablement, for reasons explained in the prior action, is maintained. In support of their request that said rejection be withdrawn, Applicants provide the following arguments.

(A) The claims have been amended to recite a method for identifying a candidate p21 pathway modulator employing a mammalian cell that expresses a CSNK1G nucleic acid comprising any of SEQ ID NOs: 1-12 or polypeptide encoded thereby. In this regard, the specification clearly describes and provides the sequences of SEQ ID NOs: 1-12. Furthermore, one skilled in the art would be able to determine the structure/sequences of a polypeptide encoded by any of SEQ ID NOs: 1-12. Thus, the claims are enabled across the genus of claimed CSNKIG nucleic acids and polypeptides.

(A) Reply: It is acknowledged that the claims have been so amended and that the skilled artisan would be enabled for determining the structure/sequences of a polypeptides encoded by any of SEQ ID NOs: 1-12.

However, the claims continue to encompass methods using an assay system comprising any mammalian cells. Even if the specification taught successful use of a single mammalian cell system, which the specification does not, the specification fails to enable the skilled artisan to determine, without undue experimentation, which of the essentially unlimited number of possible mammalian cell systems can be used successfully in the recited method.

(B) With respect to the p21 pathway screen described in the specification, the "rough eye" phenotype observed in the Drosophila eye caused by the GMR-p21 transgene (ie, see specification at p. 34) is an accepted model for measuring the effect on the p21 pathway (de Nooij, Science, 270: 983-985). As described by de Nooij et al, the GMR-p21 transgene expression targets expression of the p21 gene to cells posterior to the morphogenic furrow in the eye imaginal disc, which abolishes the second mitotic wave during eye development, which prevents G1- arrested cells posterior to the furrow from entering S phase. This disrupts the eye structure, resulting the "rough eye" phenotype.

(B) Reply: It is acknowledged that the "rough eye" phenotype of Drosophila eye can be caused by expression of the p21 transgene using the GMR promoter. However, said results do not provide evidence for a link between p21 and CSNK1G in Drosophila or mammalian cells.

(C) Others have relied on the GMR-p21 transgene model in Drosophila to identify genes specifically involved in the p21 pathway. For example, Staehling-Hampton et al., Genetics, 153:275-287 (1999), showed that poc alleles suppress the GMR-p21 rough eye phenotype.

The results described herein, for the Drosophila screen, provides direct evidence that p21 and GISH act via the same signal transduction pathways in the development of "rough eye" and that the art teaches that GMR-p21 induced "rough eye" in Drosophila is a specific model for the p21 pathway and not a gross phenotype that is affected by many signaling pathways.

(C) Reply: It is acknowledged that Staehling-Hampton et al teaches that the polycephalon (poc) mutation suppresses Drosophila phenotypes caused by both p21 and E2F. Said teachings fail to provide evidence for a link between p21 and CSNK1G in Drosophila or mammalian cells. Moreover, the teachings of Staehling-Hampton et al demonstrate that a single mutation can simultaneously affect both p21 and other signaling pathways (pg 277, ¶1, pg 285, ¶5). Thus, the results of Staehling-Hampton et al teach that, even if a test compound works via p21, it may not work specifically via p21 or specifically via a p21/ CSNK1G pathway.

(D) Regarding the teachings of Kumar et al, 1997 and Wolff et al, 1991, said reports do not describe the GMR-p21 induced "rough eye" model.

(D) Reply: It is acknowledged that Kumar et al and Wolff et al do not describe the GMR-p21 induced "rough eye" model. However, as explained in the prior action (pg 8-9), Kumar et al and Wolff et al each teach that "rough eye" in Drosophila is a phenotype that is affected by many signaling pathways. Thus, "rough eye" is not linked specifically to a p21 or a p21/CSNK1G pathway in Drosophila.

(E) The Office asserted that not all mammalian pathways and disorders can be modeled in Drosophila, alleging that Ollmann et al, 2000 teaches that Drosophila is not a useful model for the role of the mammalian p53/p21 pathway in inducing cell cycle arrest at G1. Applicants again submit that Ollmann does not describe or relate to the GMR-p21 genetic screen, which is recognized by skilled artisans as a useful model for specifically identifying genes involved in the p21 pathway.

(E) Reply: It is acknowledged that Ollmann et al does not use the GMR-p21 induced "rough eye" model. However, as explained in the prior action (pg 9), Ollmann et al clearly teaches that the effects of p53 on cell cycle in Drosophila is not mediated by p21 (¶ brdg pg 94-95; pg 97,

¶3; Fig 4E-F). Thus, Drosophila is not a useful model for the role of the mammalian p53/p21 pathway in inducing cell cycle arrest at G1.

(F) Submitted herewith are references which discuss the usefulness of Drosophila as a model for studying human gene function. Rubin et al, 2000 indicate that of 289 human genes, 177 appear to have an ortholog in Drosophila, and of the cancer genes surveyed, 68% appear to have Drosophila orthologs, including the p53 gene. Scangos et al, 1997 teaches that most human genes have counterparts in Drosophila and that the pathways characterized in humans and in Drosophila demonstrate that, in a majority of cases, entire biochemical pathways have been conserved.

(F) Reply: Rubin et al teaches that the fly has 177 genes structurally similar to 289 human disease genes examined (61%) and that of human cancer genes, the fly has genes structurally similar to 68% said human genes. However, Rubin et al does not teach that the encoded fly proteins have the same function has the mammalian proteins or that the fly and mammalian genes are in the same signaling pathways.

It is acknowledged that Scangos et al so teaches. However, said teachings of Scangos et al (most $\simeq$ 90%?) are inconsistent with the teachings of Rubin et al. Thus, the results of the comparison between Drosophila and mammalian genes was unpredictable.

Moreover, said teachings of Rubin et al and Scangos et al do not provide evidence for a p21/CSNK1G pathway in either Drosophila or mammalian cells.

(G) The Office also argued that searches of the STN, EAST, and NCBI/Entrez databases failed to teach Drosophila as a model for a mammalian CSNK1G/p21 pathway or any disorder due to alteration of a CSNK1G/p21 pathway in mammals. However, Applicants submit that the lack of teaching is a reflection of the novelty of the presently claimed methods.

(G) Reply: As explained in the prior action, since the prior art does not teach a CSNK1G/p21 pathway in Drosophila as a model for a CSNK1G/p21 pathway in mammals, the public must look to the specification for said teachings. However, the specification only asserts that Drosophila is a model for a CSNK1G/p21 pathway in mammals without providing any evidence for said assertion.

(H) The Office acknowledged that (i) the p21 pathway is involved in the regulation of cell growth and proliferation in some systems, (ii) the specification teaches that SEQ ID NO: 1, 8, and 11 are elevated in some tumor cells, and (iii) that RNAi of SEQ ID NO: 1, 8, and 11 decrease proliferation in LX1, 231T, A549 cell lines. However, the Office argued that the specification fails to provide a link between any CSNK1G mediated proliferation and any p21-mediated proliferation in any mammalian cell system. Applicants submit that, the RNAi data in mammalian cells further confirms the link between the p21 pathway and CSNK1G in mammalian cells and demonstrates the usefulness of the claimed screening assay to identify p21 candidate modulators.

(H) Reply: The Office fails to see that the effect of RNAi for SEQ ID NO: 1, 8, and 11, to decrease proliferation in LX1, 231T, A549 cell lines, provides evidence that said effect is via a p21-mediated pathway.

For these reasons and those explained in the prior actions, Claims 1, 3, 16, and 26-30 are rejected under 35 U.S.C. 112, first paragraph/enablement.

Written Description

Rejection of Claims 1, 3, 16, and 27-29 under 35 U.S.C. 112, first paragraph/written description, for reasons explained in the prior action, is maintained. In support of their request that said rejection be withdrawn, Applicants provide the following arguments.

(A) The claims have been amended to recite a method for identifying a candidate p21 pathway modulator employing a mammalian cell comprising a CSNK1G nucleic acid comprising any of SEQ ID NOs: 1-12 or polypeptide encoded thereby in a cell proliferation assay system and a test agent that modulates the expression of CSNK1G.

(A) Reply: It is acknowledged that the claims have been amended to recite using a mammalian cell system comprising one of SEQ ID NO: 1-12. However, the specification fails to provide evidence that any of SEQ ID NO: 1-12 functions within a p21-mediated pathway in mammalian cells.

(B) The specification sufficiently describes a number of exemplary cultured mammalian cells that can be used in the claimed methods, including for example, HCTll6 colon cancer cells, LX1 small lung cancer cells, 231T breast cancer cells, and A549 lung cancer cells.

Further, as the Office clearly recognized, it was known in the art that CSNK1G is ubiquitously expressed in mammalian cells (see Kusuda et al. 2000). In addition, the specification sufficiently describes a number of cellular assays that can be used in the claimed screening methods, including, for example, cell proliferation, cell-cycle, cell adhesion, cell sprouting, angiogenesis, tubulogenesis, cell migration, cell apoptosis, and other assays (specification, pg 20-19).

(B) Reply: It is acknowledged that the specification asserts that said cells can be used in the recited method. However, neither the specification nor the prior art provide evidence that said cells, or any other mammalian cells, expressing any of SEQ ID NO: 1-12, can be used in the recited method of identifying specific p21 pathway modulators.

The fact that CSNK1G proteins are expressed in mammalian cells and that assays for cell proliferation, cell-cycle, cell adhesion, cell sprouting, angiogenesis, tubulogenesis, cell migration,

and cell apoptosis where known in the art do not describe a CSNK1G/p21 pathway in any mammalian cells.

(C) The written description requirement does not require an actual reduction to practice (M.P.E.P. § 2163). Accordingly, an Applicant need not show that the invention will work for its intended purpose to satisfy the written description requirement.

(C) Reply: It is acknowledged that the written description requirement does not require an actual reduction to practice. However, the written description requirement does require that the recited invention be described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the Inventors, at the time the application was filed, had possession of the claimed invention. For the reasons explained herein and in the prior actions, the recited invention has not been described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the Inventors, at the time the application was filed, had possession of the claimed invention.

(D) The specification does indeed provide several examples of methods for identifying a p21 pathway modulator in a mammalian cell using an inhibitor of CSNK1G expression.

(i) Examples of (a) identifying various p21 pathway modulators, siRNA against CSNK1G comprising SEQ ID NO: 1, siRNA against CSNK1G comprising SEQ ID NO: 8, and siRNA against CSNK1G comprising SEQ ID NO: 11, (b) in various mammalian cells, LXI small cell lung cancer cells, 231T breast cancer cells, and A549 cells, and (c) using various cell proliferation assays, BrdU, Cell Titer-Glo, and MTS cell proliferation assays, are taught (specification, pg 39). Although the examples on page 39 were not described individually in the specification, they represent a total of 21 different examples of methods for identifying a p21 pathway modulator in a

mammalian cell; three different modulators, each tested using two different cell proliferation assays in two different cell types and a third cell proliferation assay in a third cell type.

(ii) The specification provides further examples of methods for identifying a p21 pathway modulator in a mammalian cell using various p21 pathway modulators (siRNA against CSNK1G comprising SEQ ID NO: 1 and siRNA against CSNK1G comprising SEQ ID NO: 11) in LXI small cell lung cancer cells using a nucleosome ELISA apoptosis assay.

(D) Reply: (i) (a) The specification does not describe methods using siRNA against CSNK1G comprising SEQ ID NO: 1, SEQ ID NO: 8, or SEQ ID NO: 11 such that the skilled artisan would recognize that Applicants were in possession of a method to identify p21-mediated pathway modulators. No link between said siRNA molecules and any p21-mediated pathway has been established. (b) No link between CSNK1G and any p21-mediated pathway in said cell lines has been established. (c) The use of said assays, as a means to specifically identify p21-mediated pathway modulators, has not been established.

(ii) See (D)(i)(a)-(c), above.

For these reasons and those explained in the prior actions, Claims 1, 3, 16, and 26-30 are rejected under 35 U.S.C. 112, paragraph/written description.

Relevant Art

It is noted that GenEmbl Acc. No. AF049090, disclosed April 21, 1999, consists of the nucleotide sequence set forth by SEQ ID NO: 11 herein.

Allowable Subject Matter

No claims are allowable.

This is a continued examination of the instant application. All claims are drawn to the same invention claimed in the earlier filings and could have been finally rejected on the grounds

and art of record in the next Office action if they had been entered prior to the filing of the RCE. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this continued examination. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Regarding filing an Appeal, Applicants are referred to the Official Gazette Notice published July 12, 2005 describing the Pre-Appeal Brief Review Program.

Final Comments

To insure that each document is properly filed in the electronic file wrapper, it is requested that each of amendments to the specification, amendments to the claims, Applicants' remarks, requests for extension of time, and any other distinct papers be submitted on separate pages.

It is also requested that Applicants identify support, within the original application, for any amendments to the claims and specification.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHERIDAN SWOPE whose telephone number is 571-272-0943. The examiner can normally be reached on 11a-7:30p7 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Mondesi can be reached on 571-272-0956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published application may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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